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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/729,279	12/04/2003	Ranganathan Srinivasan	034430-034	1604

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EXAMINER

RADTKE, MARK A

ART UNIT	PAPER NUMBER
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2165

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/06/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.		Applicant(s)	
	10/729,279		SRINIVASAN ET AL.	
	Examiner		Art Unit	
	Mark A. X Radtke		2165	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 January 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 93-134 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 93-134 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Remarks

1. In response to communications filed on 12 January 2007, claim(s) 1-92 is/are cancelled and new claim(s) 93-134 is/are added per Applicant's request. Therefore, claims 93-134 are presently pending in the application, of which, claim(s) 93 and 114 is/are presented in independent form.
2. In light of Applicant's amendments (because they cancel all previous claims) the previous rejections have been withdrawn. Applicant's amendments have necessitated new grounds of rejection.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claims 106-108 and 127-129 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims recite the limitation "basic dimensions" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 93-102, 104, 106-123, 125 and 127-134 are rejected under 35 U.S.C. 102(e) as being anticipated by Koskas (U.S. Pat. No. 6,564,212).

As to claim 93, Koskas teaches a method for sending a multidimensional database query to one or more data servers, the multidimensional database query including a grid having one or more rows and one or more columns, an action range, and an operation (see Abstract), the method comprising:

creating a row tree structure (See column 9, lines 38-40 and column 9, line 45 – column 10, line 6. The thesaurus is a row tree structure.), said row tree structure representing title and header rows in the query grid (see figures 10A-H and column 4, lines 34-35);

creating a column tree structure, said column tree structure representing header columns in the query grid (See column 9, lines 19-25 and see figures 1-3, "Row-ID". The link table is a column tree structure.);

performing the operation on the row tree structure and the column tree structure (See columns 10-11, Example 1. The operation is executing the query.); and

splitting the query grid into two or more split query grids using the row tree structure (see column 50, lines 55-64) and the column tree structure (see column 51, lines 36-40); and

transmitting the split query grids to the one or more data servers (see column 51, lines 40-45).

As to claims 94 and 115, Koskas teaches wherein said creating a row tree structure further includes assigning members of a row in the query grid as siblings of each other in the row tree structure (see column 15, lines 46-51, "layers").

As to claims 95 and 116, Koskas teaches wherein said creating a row tree structure further includes assigning members of a row in the query grid as children of members of a previous row in the query grid in the tree structure (see column 20, line 24).

As to claims 96 and 117, Koskas teaches wherein said assigning members of a row in the query grid as children includes, for each member in a row in the query grid: determining a distance between a member of a row in the query grid and members of a previous row in the query grid (see column 11, lines 1-29);

assigning said member as a child of a closest member in said previous row; and

wherein if two members in said previous row are equidistant, said closest member is the first of said two members (see column 20, lines 1-29).

As to claims 97 and 118, Koskas teaches wherein each of one or more nodes in said row tree structure contains row and column information regarding a corresponding cell in the query grid (see figures 1-3, "Row-ID", "Name").

As to claims 98 and 119, Koskas teaches wherein said creating a column tree structure includes assigning members of the same column of the query grid as siblings of each other in the column tree structure (see column 15, lines 46-51, "layers").

As to claims 99 and 120, Koskas teaches wherein said creating a column tree structure further includes assigning members of a column of the query grid as children of members of a previous column in the query grid in the tree structure (see column 20, line 24).

As to claims 100 and 121, Koskas teaches wherein said assigning members of a column in the query grid as children includes, for each member in a column in the query grid:

determining a distance between a member of a column in the query grid and members of a previous column in the query grid (see column 11, lines 1-29);

assigning said member as a child of a closest member in said previous column;
and

wherein if two members in said previous column are equidistant, said closest member is the first of said two members (see column 20, lines 1-29).

As to claims 101 and 122, Koskas teaches wherein each of the one or more nodes in said column tree structure contains row and column information regarding a corresponding cell in the query grid (see column 9, lines 30-32).

As to claims 102 and 123, Koskas teaches further comprising deleting at least a portion of the information from the query grid that is not row and column information of each node or information about a parent, sibling, or child of each node (see column 19, line 61, "Repeated values are eliminated").

As to claims 104 and 125, Koskas teaches further comprising modifying the action range in light of said deletion (See column 20, lines 1-2, "then". Action range is not determined until after deletion).

As to claims 106 and 127, Koskas teaches further comprising checking the row and column trees to ensure all basic dimensions of each node in the row and column trees are represented in the trees (see column 20, lines 10-14 and column 21, lines 36-37).

As to claims 107 and 128, Koskas teaches wherein dimensions may be represented in the trees directly or through an associated attribute dimension (see column 24, lines 5-10).

As to claims 108 and 129, Koskas teaches further comprising adding any basic dimensions to the trees that are not represented in the trees (see column 21, lines 37-38).

As to claims 109 and 130, Koskas teaches wherein said performing the operation includes:

traversing said row tree structure in pre-order to determine if any of the nodes is in the action range (see column 33, lines 1-9);

for each node in the action range:

querying related members of the member corresponding to the node using metadata, said querying based on the operation (see column 33, lines 23-25, FUNC);

and

inserting or deleting nodes of said row tree structure based on results of said querying while maintaining correct relationships in the row tree structure (see column 33, lines 35-37, dichotomic searches).

As to claims 110 and 131, Koskas teaches wherein said performing the operation further includes:

traversing said column tree structure in pre-order to determine if any of the nodes is in the action range (see column 34, lines 30-46);

for each node in the action range:

querying related members of the member corresponding to the node using metadata, said querying based on the operation (see column 34, lines 30-46, FNODE);
and

inserting or deleting nodes of said column tree structure based on results of said querying while maintaining correct relationships in the row tree structure (see column 34, lines 30-46).

As to claims 111 and 132, Koskas teaches wherein said splitting the query grid includes splitting the query grid based upon a user-provided basis for splitting (see column 20, lines 10-12, "may be made by a database manager").

As to claims 112 and 133, Koskas teaches further comprising:

transmitting said split query grids to a data server for data retrieval one at a time (see column 18, lines 35-60).

As to claims 113 and 134, Koskas teaches further comprising:
transmitting said split query grids to multiple data servers simultaneously for data retrieval (see column 51, lines 30-50).

As to claim 114, Koskas teaches an apparatus for sending a multidimensional database query to one or more data servers (see Abstract),

For the remaining steps of this claim applicant(s) is/are directed to the remarks and discussions made in claim 93 above.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 103, 105, 124 and 126 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koskas.

As to claims 103 and 124, Koskas teaches wherein,
extra information is deleted (see Examiner's comments regarding claim 102 and 123).

Koskas does not explicitly teach wherein said extra information includes data cells, alias information, repeated member names, external text or external labels.

However, these differences are only found in the nonfunctional descriptive material and are not functionally involved in the steps recited. The determination of extra data would be performed the same regardless of the type of data. Thus, this descriptive material will not distinguish the claimed invention from the prior art in terms of patentability, (see *In re Gulack*, 703 F.2d 1381, 1385, 217 USPQ 401, 404 (Fed. Cir. 1983); *In re Lowry*, 32 F.3d 1579, 32 USPQ2d 1031 (Fed. Cir. 1994)).

Therefore, it would have been obvious to a person of ordinary skill in the relevant art at the time the invention was made to delete extra information based on any type of information, because such data does not functionally relate to the steps in the method claimed and because the subjective interpretation of data does not patentably distinguish the claimed invention.

As to claims 105 and 126, Koskas, as modified, teaches wherein said deleted external texts or labels are saved in a data structure with corresponding row and column information (see column 24, lines 27-39).

Response to Arguments

9. Applicant's arguments filed on 12 January 2007 with respect to the rejected claims in view of the cited references have been fully considered but are not deemed persuasive.

In response to Applicant's arguments that "Koskas is therefore partitioning the trees and not the query grid", the arguments have been fully considered but are not deemed persuasive. At column 51, lines 40-44, Koskas discloses "[The query server] translates ***the query criteria of the SQL WHERE clause into trees*** of the type shown in FIG. 37, which are provided to the M matching units 700" (emph. added). Thus, the SQL query (i.e., the "query grid") is decomposed into one or more trees.

In response to Applicant's arguments that "Koskas does not disclose or suggest the limitation of splitting the query grid into two or more split query grids using the row tree structure and the column tree structure", the arguments have been fully considered but are not deemed persuasive. As indicated in the cited portions of Koskas (columns 50-52), the thesaurus and link table are partitioned and distributed across multiple servers. It is well-known in the art that in order for such a distributed system to be useful, queries must be broken down into sub-queries, executed and then a result must be rebuilt by JOIN-ing the sub-queries (see column 51, lines 40-58). The cited portion of Koskas directs the reader towards figure 37; the figure indicates a tree comprised of

columns to query and conditions on those columns. The column conditions would correspond to a certain subset of rows, so, these sub-trees correspond to the "split query grids" of the instant invention.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications should be directed to the examiner, Mark A. Radtke. The examiner's telephone number is (571) 272-7163, and the examiner can normally be reached between 9 AM and 5 PM, Monday through Friday.


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If attempts to contact the examiner are unsuccessful, the examiner's supervisor, Jeffrey Gaffin, can be reached at (571) 272-4146.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to Customer Service at (800) 786-9199.

maxr

1 April 2007


JEFFREY GAFFIN
SUPERVISORY PATENT EXAMINER
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